WORKSTATION

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of Provisional Patent Application No. 60/428,144; filed on November 21, 2003.

BACKGROUND OF THE INVENTION

[0002] The present invention relates to a workstation which is essentially an upright structure adapted to provide a modifiable support and power-supplying arrangement for a multiplicity of different items or components; for example, a versatile furniture piece serving as a computer workstation, shelving unit, television/media center, a chair, a worktable, among numerous other functions and configurations which are adapted to provide diverse types of supporting arrangements adapted for versatile home, office and other workplace applications in conformance with customer requirements.

[0003] In the field of providing workstations and furnishings for homes, offices and other workplaces, it is frequently important to be able to impart a high degree of versatility to the items of furniture so as to be able to easily and inexpensively adapt and convert the basic components to suit the most diverse customer requirements at a minimum time and effort, and in a space-saving mode. In particular, present modern furnishings, which are geared to rapid changes in home and workplace technology, necessitate that furniture items be able to be designed so as to accommodate and support, in a selective, and rapidly exchangeable mode, various items of use in different positions and conditions of readiness.

BRIEF SUMMARY OF THE INVENTION

[0004] In order to achieve the foregoing construction of a versatile workstation, the present invention is directed to providing a basically modular and extremely easily adaptable structure, which is designed to serve the function of a media stand and which is able to selectively and interchangeably mount and/or detachably support different items of furnishing, which are adapted to be utilized or required in either home, office or other suitable workplace locations. To that effect, it is desirable to be able to provide a basic support structure, which can be modified and customized at a minimum cost and at a high degree of interchangeability by being equipped with various auxiliary structures, such as shelvings mounted thereon, to support diverse items which are required by a customer as a modular furniture unit, the latter of which essentially serves as a workstation.

[0005] In essence, the inventive workstation or modular furniture unit provides for an upstanding pole or column mounted on a base, which also includes casters to be able to move the column in an easy manner to various locations. The column may be equipped with different types of components, such as shelves or the like, which provides support arrangements for the most diverse types of items, for example, all kinds of office equipment, computer components, personal items, or household items, which are commonly employed in offices, houses or industrial locales. Moreover, the workstation may be equipped to house connections and wiring leading to electrical power supply sources, telephone and computer lines, which may be retained so as to extend within the upright column or rod hidden from external view and resultingly in an aesthetically attractive manner.

[0006] Accordingly, it is an object of the present invention to provide a workstation which is adapted to provide a modular and customizable support arrangement for a multiplicity of diverse types of furnishings or items which are commonly employed in many household, office or workplace applications.

[0007] Another object of the present invention is to provide a workstation of the type described, which in a readily adjustable manner enables the interchanging and/or replacing of various support or shelving components that are to be mounted on a basic columnar structure so as to be able to accommodate different types of household or office items in conformance with the specification of a customer.

[0008] Another object of the present invention is to provide a workstation of the type described herein, which is adapted to be connected and to interiorly house electrical, telephone and communication wiring and connections in a highly aesthetic and functional manner, and may also serve as a room divider, plant stand or lightening media center.

BRIEF DESCRPTION OF THE DRAWINGS

[0009] Reference may now be made to the following detailed description of preferred embodiments of the invention, taken in conjunction with the accompanying drawings; in which:

[0010] Figure 1 illustrates a front elevational view of an upright columnar arrangement forming a basic support structure for the inventive workstation;

[0011] Figure 2 illustrates a rear elevational view of the lower portion of the columnar arrangement;

[0012] Figure 3 illustrates a side elevational view of the upright columnar arrangement, the opposite side being a substantial mirror-image thereof;

[0013] Figure 4 illustrates a detail, on an enlarged scale, of the encircled portion A in Figure 3, representing one of the slots formed in the columnar arrangement;

[0014] Figure 5 illustrates a rear elevational view of the upright support structure, showing shelving and other workstation-forming components attached thereto;

[0015] Figure 6 illustrates a top plan view of the arrangement of Figure 5;

[0016] Figure 7 illustrates a front elevational view of the arrangement of Figure 5;

[0017] Figure 8 illustrates a side elevational view of the arrangement of Figure 5;

[0018] Figure 9 illustrates a front view of a modified arrangement showing a different type of shelving attached to the columnar support structure.

[0019] Figure 10 illustrates a rear elevational view of the arrangement of Figure 9;

[0020] Figure 11 illustrates a side elevational view of the arrangement of Figure 9;

[0021] Figure 12 illustrates a front elevational view of a modified arrangement of the workstation showing different sizes of shelving attached thereto;

[0022] Figure 13 illustrates a side elevational view of the arrangement of Figure 12;

[0023] Figure 14 illustrates a rear elevational view of the arrangement of Figure 12;

[0024] Figure 15 illustrates a perspective view of a typical arrangement of shelf components supported on the upright support structure;

[0025] Figure 16 illustrates a partial perspective rear view of the arrangement of Figure 15;

[0026] Figure 17 illustrates a front perspective view of the arrangement of Figure 16 showing various workstation-forming components supported thereon;

[0027] Figure 18 illustrates a further modified arrangement of components supported on the workstation;

[0028] Figure 19 illustrates the workstation of Figure 18 as located within a screened-off, self-contained cubicle;

[0029] Figure 20 illustrates a fragmentary perspective view of a support shelf and lamp on the workstation;

[0030] Figure 21 illustrates a front perspective view of a modification of components arranged on the workstation;

[0031] Figure 22 illustrates an arrangement of shelving and various items located on a workstation similar to that shown in Figure 9; and

[0032] Figure 23 illustrates a further arrangement of shelving and support structure for a workstation which is adapted for installation in a kitchen, and which incorporates a kitchen potholder.

DETAILED DESCRIPTION OF THE INVENTION

[0033] Throughout the several views and embodiments, similar or identical components may be identified by or designated with the same reference numerals.

[0034] Referring now in more specific detail to the drawings, and particularly the embodiment of Figures 1-4, there is illustrated a generally upright support structure 10, which is in the form of a pole or column. The structure 10 is preferably configured in traverse cross-section as being rectangular, but may also be of a selectively round, ovoid triangular or square shape among others, and possesses a hollow interior along the vertical extent thereof. The upper end of the upright structure 10 may be closed off by means of a suitable cover or cap 12.

[0035] The upright pole or column 10, and also cap 12, is adapted to be constructed of any suitable rigid and load-supportive metallic or non-metallic material; for instance, such as

aluminum, sheetmetal, high-strength molded plastic or wood, and may be imparted with selective exterior surface colorings and texture in conformance with the specific decorative requirements of a customer. Thus, for example, the exterior surfaces of the column 10 may be imbued with a polished metal finish or glossy and/or flat painted decorative colors, or provided with a wood grain finish intended to simulate wood, in case the column 10 is not actually constituted of a wood or wood-based material. The pole 10 may be vertically extending, or may slope slightly rearwardly, such as at an angle of about 5° to 15° from the vertical.

[0036] The lower end of the upright pole or column 10 is supported on a generally horizontally extending base structure 14, which, as clearly shown in the drawings, may be of a plate-like element 16 in the form of a plurality of circumferentially spaced of spokes 18 each extending radially outwardly from a center hub 20. The bottom end portion of the pole 10 may be fastened by means of upstanding gusset plates 22 extending from each of the spokes towards the bottom side surfaces of the pole, and are fastened thereto by means of suitable screw threaded elements 24, or spring pin arrangement for rapid tool-less assembly, as shown in Figure 3 of the drawings. These gussets 22, which may be of a rigid material, such as aluminum, are attached or fastened to the upper surface of the base plate spoke-like elements 16. The base plate structure 14 may be constituted of either particle board, metal, plastic, or wood, as may be desired by customer requirements, and also dependent upon the type of loads, which are imparted to the pole 10 upon the mounting thereon of various structural components, such as shelves and the items placed thereon, as discussed hereinbelow.

[0037] The outer end portions of each of the spokes 18 of the baseplates 16 may be provided with leveling structures 26, such as made by LEVELOR or, alternatively, with suitable rollers or casters (not shown) to adapt the entire workstation to be rolled or moved to different locations in an easy manner.

[0038] As shown in the drawings, the hollow interior of the upright pole or column 10 may be provided, preferably towards the lower rear end thereof, with an access aperture 30 to facilitate electrical wires or cables to be conveyed into and snaked through the interior of the column 10 so as to aesthetically hide such cables from external view when the entire workstation is viewed by a user from the front or sides thereof. Moreover, electrical or cable connector plugs 32 may also be provided in the baseplate structure 14 to facilitate connections between the respective gussets 22 and the spoke-like elements 16.

[0039] The front and adjoining side edges 34 of the column or pole 10 may be provided with a series of vertically spaced through notches 36, which are adapted to provide supports for shelving or other support structures to be mounted on pole 10, as described hereinbelow in connection with various embodiments. These notches 36, as shown in more specific detail in Figure 4 of the drawings, are essentially of elongated slot-like nature and extend through the front side portions and front edges on both sides of the column or pole of a width to also allow for the passing through of the electrical wires and cables, printer plugs and 110v plugs from the hollow interior of pole 10 to any wired items supported on the respective shelves attached to pole 10.

[0040] As shown in a specific workstation 40, as represented by the embodiment of Figures 5 through 8 of the drawings, the upright column or post 10, has a number of shelves 42, 44 and 46 attached adjustably thereto, along the height thereof. Each of the shelves fit into, respectively, a pair of the slot-like 36 notches at the opposite side and front edges 34 of the post 10. As shown by the detail "B" relative to the rear edge of bottom shelf 46 (all other shelves having the same edge structure), the shelf 46, referring to Figure 6, has a center cutout 50 with a narrower cross-section 52 towards the bottom 54 of the cutout 50. The wider section 56 of the cutout 50 slides over the walls of post 10, while the narrower section 52 slides into notches 36 so as to be supported thereon.

[0041] The rear edges 60, 62, 64 of each of the shelves may be fastened to rear ledges or shelf support angles 66, 68, 70, and fastened by means of brackets 72, and keyway/stud interlocking system fastenings 74 to the rear of post 10, as shown in Detail C, the latter of which has suitable threaded apertures and stamped keyways formed therein for this purpose, for quick and easy locking in and changing of components. In effect, each of the shelves are fixed in the form of cantilevers extending forwardly from the post 10.

[0042] In order to maintain the weights of the shelves as low as possible, while still having them of sufficient strength and rigidity to support relatively heavy items, the shelves may be formed of suitable pressed paperboards, plastics, plywood and laminations, glass, composites and butcher block, and may be decoratively finished, as required by customers. For example, as illustrated in the embodiment of Figures 5-8, in that instance, the bottom shelf 46 may be at a suitable level mounted on post 10, adapted to receive various storage items, and/or diverse accessories.

[0043] The shelf 44 thereabove, has a computer keyboard tray 80 mounted therebelow, which is optionally adapted to support a keyboard 82 in a pull-out condition, whereas the upper surface of the shelf 44 may be adapted to support a monitor and provide a work surface for various further components of a computer or processor arrangement. The uppermost shelf 42 may also be employed for the support and storage of diverse items, as required by a user.

[0044] Furthermore, supported from one edge portion below the shelf 44 mounting the keyboard computer tray may be a CPU tower 86, which is also supported from the floor by means of a suitable adjustable stabilizer leg element 88, so as to avoid imparting an excessive bending load to the workstation.

[0045] Any electrical and cable components leading to the computer and other electrical devices, are, of course, as previously indicated, arranged to a large extent within the column or rod 10 and are adapted to be passed outwardly through the notches 36 so as to be connectable to the various components on the shelves may necessitate electrical power or other services as needed to be supplied thereto.

[0046] As indicated, the rod element 88 supporting the CPU tower unit 86 may also provide for connecting support straps 90 to the shelf 44 holding the computer monitor, and adjustable stabilizing leg 88 may also be fastened to the CPU tower 86 with a support angle 92 through thumb screws, the lower end of which is supported on the floor for the workstation.

[0047] With regard to the further disclosed embodiments, these are primarily modifications and utilizations of optional equipment, which may be mounted on or supported from the basic upright column or rod 10 so as to form diverse workstations.

[0048] Having particular reference to the workstation 100 shown in Figures 9 to 11, in this instance, the post 10 is equipped with four (4) substantially identical shelves 102. Each of the shelves 10 may be provided with book stop limits 104 at suitable locations so as to form adjustable bookshelves. The book stop limits 104 may each be generally semi-circular plate members attachable in adjustable and upright orientations on the shelves 102. A plurality of shelves may be fastened to the upright column or rod, and having adjustable book stop limits arranged on each of shelves so as to adapt the entire workstation to be designed as a bookcase or a book support.

[0049] Referring to the embodiment of Figures 12-14, these figures primarily show a workstation 110 with shelves 112, 114 of different widths and lengths being supported at different heights along the column or upright post 10 with the shelves being possibly support shelves for various types of items, such as office equipment or household items in conformance with the requirements of specific customers.

[0050] As shown in the perspective view of Figure 15 of the drawings, three (3) shelves 122, 124 and 126 are shown mounted on the vertical column 10, in which uppermost shelf 122 includes a bookend stop and also a monitor for a computer, middle shelf 124 includes bookend stops, including a pull-out tray 128 for the computer keyboard being mounted below the shelf, and a printer being supported on the lowermost third shelf 126. As shown in Figure

16, the middle shelf also at one end thereof may support a CPU tower 86 for the computer, similar to Figures 5 to 8, with the remaining shelves being similar to those in that previous embodiment.

[0051] This is also illustrated in the front perspective view of Figure 17, showing the various computer components supported thereon, including a printer or facsimile machine; whereas in the modification of Figure 18 of the drawings, rather than having the book end stops, the shelves 122, 124, 126 are adapted to support a computer.

[0052] Indicated in Figure 19 is a screen arrangement 130, plant hanger and/or room divider to facilitate further flexibility for the home, office and afford privacy. This allows for flexibility in placement for the workstation with no back side adapted to be supported adjacent the workstation; whereas in Figure 20, this illustrates a detail of reading lamp, task or work light being supported on the top column cap 12, with the wire running through post 10.

[0053] Referring to the embodiment of Figure 21, in that instance, the shelves 150, 152, 154 may be of a somewhat more decorative nature with rounded front edges, such as being adapted for a home office or a study, in which the uppermost shelf 150 supports a lamp, as shown differently in Figure 20, and may also support personal items, such as a picture frame; whereas middle shelf 152 supports a telephone and may be adapted to have a monitor supported thereon, and therebeneath a pull-out keyboard tray for operating a computer, which is above lowermost shelf 154.

[0054] As shown in Figure 22, as in Figures 9-11, the shelves 102 may be adapted to provide for book end stops, similar to the shelves 102 in Figure 9 of the drawings, and illustrates books and other items being optionally supported thereon, such as a phone station, printing, stereos, and lighting, all with internal wire management, in accordance with the requirements of a user, and also such items as a printer, telephone, and various personal items, in addition to ledgers or books.

[0055] Finally, with respect to the butcher block embodiment of a workstation 160 as in Figure 23 of the drawings, in that instance, the shelves 162, 164, 166 and 168 are adapted to support household items, such as being utilized in a kitchen, including a coffee maker, a microwave, and the upper end of the upright column or pole 10, may be equipped with a cross-bar 170 including attachments for suspending various kitchen pots and/or pans.

[0056] In view of the foregoing, it clearly appears that the present invention comprising the unique and extremely versatile workstation adaptable to a multiplicity of uses and configurations, which possesses constituents readily modified or customized in accordance with the particular requirements of a customer and may be easily adapted for home, office, industrial or other workplace applications. Furthermore, it is also possible to interchange colorings and surface finishes of the various components to impart a multi-colored, highly aesthetically attractive effect, and to essentially be able to mix and match different types of shelvings adapted for diverse uses in a single workstation.

[0057] From the standpoint of an all-inclusive design concept, consideration can be given to the ergonomics of multi-viewing and work heights, positions for users standing or sitting,

stools and chairs, large and small body types, shelves and storage requirements, media, speakers to enhance gaming options, and simulators to create an environment.

[0058] While the present invention has been particularly shown and described with respect to preferred embodiments thereof, it will be understood by those skilled in the art that the foregoing and other changes in forms and details may be made without departing from the spirit and scope of the present invention. It is therefore intended that the present invention not be limited to the exact forms and details described and illustrated but fall within the scope of the appended claims.